

GREG EMMEN

Vehicle Systems Integration Engineer

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WORK EXPERIENCE

General Motors | Vehicle Systems Integration Engineer for GM Defense | *Feb 2024 – Present*

- Manage the development and integration of electrical systems into defense vehicles
- Collaborate with GM Defense team members to maintain and pursue defense contracts
- Ensure that integrated vehicle systems comply with regulatory standards and requirements
- Identify and resolve issues related to vehicle system integration

General Motors | Software & Controls Engineer for GM Defense | *Sep 2021 – Feb 2024*

- Executed mid-cycle hardware and software update to avoid production stoppage due to parts shortage
- Prototyped control systems for military vehicles to meet customer requirements with tight deadlines
- Utilized real-time CAN communication tools (neoVI, ETAS INCA/MDA) to troubleshoot vehicle issues
- Developed software to integrate GM standard technology onto non-standard defense applications
- Coordinated with suppliers on hardware and software integration for off-the-shelf components
- Performed hardware validation activities with dyno cells and mule vehicles

General Motors | Controls Design Engineer | *Dec 2018 – Sep 2021*

- Led a cross-functional team of engineers to enable HV propulsion capability and safety features
- Defined a leader/follower communication protocol for coordinating actions across controllers
- Refactored C++ code to improve run-time execution, maintainability, and software quality
- Wrote embedded controls software in a scaled agile development environment
- Directed the automation of unit and behavioral software tests with global team
- Engaged in GM standard system analysis of failure modes (DFMEA)

General Motors | Plant Modeling & HIL Integration Engineer | *Jun 2015 – Dec 2018*

- Technical expert on the implementation of controller software to Hardware-in-the-Loop (HIL) benches
- Built and maintained MATLAB plant models to simulate vehicle hardware capability
- Spearheaded initiative to organize tools and workflow in laboratory environment
- Managed multiple HIL benches to meet customer requirements for testing
- Enabled Python scripted test automation capabilities for HIL benches

EDUCATION

University of Michigan – Dearborn | Master of Science in Engineering (Energy Systems Engineering) | *2019 – 2021*

- Regenerative Braking Control of a Brushless DC Motor Drive ([regen braking project writeup](#))
- Satellite Attitude Control Model ([attitude control project writeup](#))

Colorado State University | Bachelor of Science in Mechanical Engineering | *2011 – 2015*

- CSU EcoCAR3 Controls Team

SKILLS

Project Coordination
Communication

Problem Solving
Adaptability

Agile Development
Data Analysis

Programming (Python, C++)
MATLAB/Simulink